

AMENDMENTS

DETAILED DESCRIPTION OF THE INVENTION

Please amend the Detailed Description of the Invention as follows:

Please replace paragraph [0018] with the following amended paragraph:

[0018] Fig. 1 illustrates a block diagram of an exemplary system 101 utilizing a color adjustment block (CAB) 103, in accordance with an embodiment of the present invention. The CAB 103 may be utilized in a system 101, and may be associated with a video display in the system 101. The system 101 may comprise other components such as, for example, the block 105 that performs 4:2:2 to 4:4:4 conversions. The CAB 103 may operate before the block 105 in the system 101 to reduce hardware cost. The architecture of the CAB 103 may be based on a two-dimensional [Cr, Cb] lookup table (LUT). The LUT may be utilized for 2-dimensional linear interpolation, which may result in a table of a fairly small size such as, for example, 1024x17 bits. The two-dimensional LUT may have one direction or axis representing the Cr component of the pixels, and the other direction or axis representing the Cb component of the pixels. The CAB 103 may be programmable by a user to provide control over color adjustments by allowing the user to program the LUT. The LUT may be programmed into a memory unit (not shown) in the system 101, and a processor (not shown) may read from and writtene to the LUT.

Please amend the Detailed Description of the Invention as follows:

Please replace paragraph [0029] with the following amended paragraph:

[0029] In instances where the bypass bit is set for all four entries closest to the input pair, then there is a full bypass condition, and the input [Cr, Cb] goes through the system unchanged,

where the output pair is the same as the input pair. In instances where the bypass bit is asserted for a portion of the entries closest to the input pair, there is a partial bypass condition, and the output may be calculated in a manner, which may be somewhat similar to that which is indicated above. However, for each pair for which the bypass bit is asserted, a shifted index of the corresponding LUT entry is used instead of the values in that LUT entry. As indicated above, the index of a LUT entry of one of the closest LUT entries to the input pixel, is the pair of 5 MSBs of the Cr value and the 5 MSBs of the Cb value of the input, plus whatever shift needed to get that index (+0, +1, +32, or +33). This may be further illustrated by the example below using the same data as the example above.

Please amend the Detailed Description of the Invention as follows:

Please replace paragraph [0035] with the following amended paragraph:

[0035] In an embodiment of the present invention, if all 4 outputs read from the LUT have the “bypass” signal asserted and a full bypass condition may be indicated, the interpolator 205 may not calculate [[a]] chrominance values and the color may remain the same as the input color. The interpolator 205, in the full bypass condition may be used to calculate a luminance offset value. The luminance-offset values may be encoded as the 8 LSbs of the LUT outputs (the “Cb” values). The interpolator 205 may interpolate the outputs read from the LUT as described hereinabove, but the “Cb” output may be sent to the luminance-offset block.